

### REMARKS/ARGUMENTS

Claims 1, 2, 4-9 and 11-21 are pending herein. Claim 3 has been cancelled hereby in favor of rewritten claim 2. Claims 2 and 15 have been amended hereby as supported by Figs. 7-8B, 12 and 13, for example. Applicant respectfully submits that no new matter has been added.

1. Examiner Paik is thanked for courtesies extended to Applicant's undersigned representative during a telephonic interview on December 14, 2005, the substance of which is incorporated below.
2. Applicant appreciates Examiner Paik indicating that claim 4 is allowed. In addition to allowed claim 4, Applicant respectfully submits that all claims pending herein are in condition for allowance for the reasons explained below, and respectfully requests that the PTO issue a Notice of Allowance for this application in due course.
3. Claims 1, 15-17, 19 and 20 were rejected under §102(b) over Kano. Applicant respectfully traverses this rejection.

Independent claim 1 recites a heater comprising a plate including a heating surface which heats an object to be heated, and a resistance heater element provided in the plate. The resistance heater element comprises a continuous wiring pattern including a plurality of flexures and a uniform thermal pattern portion, wherein an area between immediately radially adjacent flexures is varied to improve thermal uniformity between the adjacent flexures.

Examiner Paik asserted that Kano discloses a heater "wherein the area between immediately radially adjacent flexure expands or varies between the flexures as the flexures circumvent along the terminal 5" (Office Action, page 2, lines 18-19). Applicant respectfully submits, however, that Examiner Paik has mischaracterized the disclosure of Kano, at least with respect to the features recited in claim 1.

That is, Applicant respectfully submits that in Fig. 1(a) of Kano, the area between all of the flexures, and even between immediately radially adjacent flexures, is *substantially constant*. For example, while the shapes or areas of the flexure portions themselves may vary as the flexure portions of the wiring pattern are bent to avoid the terminal 5, the area between the immediately radially adjacent flexure portions remains substantially constant. Applicant respectfully submits that this is in direct contrast to independent claim 1, which recites that the area between immediately radially adjacent flexures is varied.

Applicant's representative presented the argument outlined above during the telephonic interview, and Examiner Paik indicated that he would consider this argument in further detail upon receipt of Applicant's written response.

Applicant respectfully submits that Kano does not disclose each and every feature of independent claim 1 for the reasons explained above. Accordingly, Applicant respectfully submits that independent claim 1 defines patentable subject matter over Kano, and respectfully requests that the above rejection be reconsidered and withdrawn.

Independent claim 15 recites a heater comprising a plate including a heating surface which heats an object to be heated, and a resistance heater element provided in the plate. The resistance heater element comprises a wiring pattern including a plurality of concentrically disposed element lines having terminals for input/output of electric power. Each element line includes a winding pattern. At least one element line passes between the terminals by means of a flexure, and the flexure includes a swollen portion having substantially rounded corners that curves in an asymptotic direction with respect to at least one of an adjacent portion of the element line and an adjacent portion of another immediately adjacent element line.

In the Office Action, Examiner Paik asserted that Kano's heating element "further includes the flexures having a swollen part in an asymptotic direction as the wiring pattern passes the terminals (see Figure 1(a) wherein the swollen portions are

the portions that are protruding toward the terminal)" (Office Action, page 2, lines 20-22).

Applicant respectfully submits, however, that independent claim 15 has been rewritten to clarify that the swollen portion of the flexure has rounded corners, as shown, for example, in Figs. 12 and 13 of the present application. On the other hand, in Kano, the portion of Kano's heater pattern that Examiner Paik asserted corresponds to the claimed swollen portions does not have corners that are rounded. Accordingly, Applicant respectfully submits that Kano simply does not disclose each and every feature now recited in independent claim 15.

During the telephonic interview, Examiner Paik indicated that he would review this argument in further detail upon receipt of Applicant's written response.

For at least the foregoing reasons, Applicant respectfully submits that independent claim 15, and all claims depending directly or indirectly therefrom, define patentable subject matter over Kano. Accordingly, Applicant respectfully requests that the above rejection be reconsidered and withdrawn.

4. Claims 2, 5 and 8 were rejected under §102(b) over Hurko. Applicant respectfully traverses this rejection.

Independent claim 2 recites a heater comprising a plate including a heating surface for heating an object to be heated, and a resistance heater element provided in the plate. The resistance heater element comprises a continuous wiring pattern including a plurality of radially sequential wirings having a plurality of radially adjacent folding parts having substantially rounded corners and a substantially straight connection portion connecting the substantially rounded corners of the folding parts. A first distance between a portion of one of the wirings before the wiring is folded to form one of the folding parts and an opposed, immediately radially adjacent portion of the wiring after the wiring is folded to form the folding part is substantially constant, and a second distance between a portion of the wiring at one end of the folding part

and an opposed, immediately radially adjacent portion of the wiring at the other end of the folding part is greater than the first distance.

Applicant respectfully submits that independent claim 2 now includes features similar to those previously recited in claim 3, and that rewritten claim 2 further limits those features to clarify that the corners of the folding parts are substantially rounded, and that these substantially rounded corners are connected by a substantially straight connection portion. Applicant respectfully submits that these features are not disclosed in Hurko. This position is also supported by the fact that claim 3 was not included in the rejection over Hurko.

Moreover, contrary to Examiner Paik's assertions on page 2, lines 26--page 3, lines 2 and page 5, lines 19-22 of the Office Action, Applicant respectfully submits that Hurko does not disclose immediately radially adjacent flexures (i.e., folded portions), because a portion of Hurko's wiring pattern is clearly interposed between the outer flexure portion and the inner flexure portion, as shown in Hurko's Fig. 1, for example. Examiner Paik did not specifically address this point, which was previously presented in the May 27, 2005 Amendment, in the pending Office Action. Moreover, Examiner Paik did not use the word "immediately" before "radially adjacent folding parts" when describing the alleged disclosure of Hurko.

Even in view of the above, however, since rewritten claim 2 now includes the features of claim 3, which was not rejected under §102(b) over Hurko, Applicant respectfully submits that independent claim 2, and all claims depending directly or indirectly therefrom, define patentable subject matter over Hurko. Accordingly, Applicant respectfully requests that the above rejection be reconsidered and withdrawn.

5. Claim 21 was rejected under §102(e) over Fure. Applicant respectfully traverses this rejection.

Independent claim 21 recites a heater comprising a plate having a heating surface which heats an object to be heated, at least one hole formed in the plate and a

resistance heater element provided in the plate. The resistance heater element comprises a continuous wiring pattern including a plurality of flexures connecting a plurality of radially sequential, substantially concentric arc portions, and a plurality of curved avoidance portions, the avoidance portions having a radius of curvature that deviates from a radius of curvature of the arc portions to circumvent at least one of the at least one hole. The radius of curvature of each avoidance portion on each radially sequential arc portion increases as the radial distance between each avoidance portion and the hole increases.

Applicant respectfully submits that Examiner Paik's assertions on page 3, lines 7-9 and page 6, lines 5-8 of the pending Office Action mischaracterize the disclosure of Fure.

That is, as mentioned above, claim 21 recites that the resistance heater element includes a plurality of curved avoidance portions, each of which has a radius of curvature that deviates from the radius of curvature of the arc portions to circumvent holes. Claim 21 also recites that the radius of curvature of each avoidance portion on each radially sequential arc portion increases with the increasing distance from the respective hole.

On the other hand, in Fure, only the small parts of some of the centrally positioned arc portions of the heating element lines that are positioned closest to the sensor installation holes 64 (immediately on either side thereof) have "avoidance portions" with a radius of curvature that deviates from the overall radius of curvature of the arc portions themselves. Applicant respectfully submits that the sequentially radial arc portions do not include any such "avoidance portions" whatsoever. Indeed, Applicant respectfully submits that Examiner Paik appears to have confused the claimed radius of curvature of the avoidance portions with the radius of curvature of Fure's arc portions themselves. Moreover, Applicants respectfully submit that, based on the structure shown in Fure's Fig. 3, the radius of curvature of the "avoidance portions" on the outermost element line, that is, the line that is positioned further outward with respect to the center of the heater plate, are substantially the same as, if

not identical to, the radius of curvature of the "avoidance portions" on the other (inner) side of the sensor installation holes 64 (e.g., the line that is positioned more inwardly with respect to the center of the heater plate). Indeed, Applicant respectfully submits that the radius of curvature of any one of the avoidance portions, where the arc shaped wiring pattern is bent to avoid the holes 64, is the same. In that manner, Applicant respectfully submits that the radius of curvature of the outermost avoidance portion is not greater than the radius of curvature of the inner most avoidance portions. Further, both the innermost and outermost avoidance portions are the same distance from respective holes 64. In view of the above, Applicant respectfully submits that Fure does not disclose the feature of claim 21 which recites that the radius of curvature of each avoidance portion on each *radially sequential* arc portion *increases with the increasing distance* from the respective hole.

Applicant's representative presented the above arguments to Examiner Paik during the telephonic interview, and Examiner Paik indicated that he would consider these arguments in detail upon receipt of Applicant's written response.

For at least the foregoing reasons, Applicant respectfully submits that Fure does not disclosure each and every feature recited in independent claim 21. Accordingly, Applicant respectfully submits that independent claim 21, and all claims depending directly or indirectly therefrom, define patentable subject matter over Fure, and respectfully requests that the above rejection be reconsidered and withdrawn.

6. Claims 2, 3, 5, 8, 9, 11, 13 and 14 were rejected under §103(a) over Fure in view of Mizuno. Applicant respectfully traverses this rejection.

Independent claim 2 is discussed above in section 4. Claim 3 has been cancelled in view of rewritten independent claim 2, and claims 5, 8 and 9 each depend, directly or indirectly, from claim 2. Applicant respectfully submits, however, that rewritten claim 2 defines patentable subject matter over the applied references for the reasons explained in further detail below.

Claims 11, 13 and 14 each depend from independent claim 21, which is discussed above in section 5. Applicant respectfully submits, however, that since independent claim 21 defines patentable subject matter over the applied references for the reasons explained above, claims 11, 13 and 14 likewise define patentable subject matter over the applied references at least by virtue of their respective dependencies from independent claim 21.

With respect to independent claim 2, Applicant respectfully submits that claim 2 now recites that the folding parts include substantially rounded corners, and that these substantially rounded corners are connected by substantially straight connection portions. Applicant respectfully submits that these features are simply not disclosed or suggested in the applied references.

Applicant's representative presented the above arguments during the telephonic interview, and Examiner Paik indicated that he would consider these arguments in detail upon receipt of Applicant's written response.

For at least the foregoing reasons, Applicant respectfully submits that all claims pending herein define patentable subject matter over the applied references, and respectfully requests that the above rejection be reconsidered and withdrawn.

7. Claims 6, 7 and 12 were rejected under §103(a) over Fure in view of Mizuno, and further in view of Yoshida. Applicant respectfully traverses this rejection.

Claims 6 and 7 each depend directly from independent claim 2. Since independent claim 2 defines patentable subject matter over the applied references for the reasons explained above in section 6, Applicant respectfully submits that claims 6 and 7 likewise define patentable subject matter over the applied references at least by virtue of their respective dependencies from independent claim 2.

In addition, Applicant respectfully submits that claim 14 defines patentable subject matter over the applied references for the same reasons explained above in section 6 with respect to claims 11, 13 and 14.

For at least the foregoing reasons, Applicant respectfully requests that the above rejection be reconsidered and withdrawn.

8. Claim 18 was rejected under §103(a) over Kano in view of Yoshida. Applicant respectfully traverses this rejection.

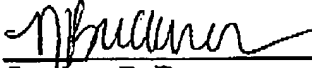
Claim 18 depends directly from independent claim 15, which is discussed above in section 3. Since independent claim 15 defines patentable subject matter over the applied references for the reasons explained above, Applicant respectfully submits that claim 18 likewise defines patentable subject matter over the applied references at least by virtue of its dependency from independent claim 15. Accordingly, Applicant respectfully requests that the above rejection be reconsidered and withdrawn.

If Examiner Paik believes that contact with Applicant's attorney would be advantageous toward the disposition of this case, he is herein requested to call Applicants' attorney at the phone number noted below.

The Commissioner is hereby authorized to charge any additional fees associated with this communication or credit any overpayment to Deposit Account No. 50-1446.

Respectfully submitted,

December 15, 2005  
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